New Hampshire Electric Cooperative

Communications Systems Infrastructure/Automated Metering Infrastructure

Abstract

The New Hampshire Electric Cooperative (NHEC) Communications Systems Infrastructure/Automated Metering Infrastructure (AMI) project involves the installation of two-way voice and data communications infrastructure to support smart metering systems for over 80,000 members located throughout New Hampshire. The project will assist NHEC's members by providing them usage information and the option to participate in time-based rate programs for managing electricity consumption and associated costs. In addition NHEC expects to use the new systems to improve outage detection and response time, tamper detection, and reduce operations and maintenance costs.

Smart Grid Features

Communications infrastructure includes microwave and fiber optic systems that enable two-way backhaul communication between the meters, substations, other data collection points, and control office. This infrastructure provides NHEC with expanded capabilities and functionalities to optimize electricity delivery, monitor and improve system reliability, and enhance member service options.

Advanced metering infrastructure includes more than 82,000 smart meters, allowing NHEC to complete its deployment of smart meters to all of its members. AMI enables time-based rate programs and electric service options for members who elect to participate in the proposed programs. NHEC expects lower operations costs from remote meter reading, improved outage response time, and tamper and theft detection. Outage and notification and a remote service switch help NHEC improve its response to service calls and improve customer service.

At-A-Glance

Recipient: New Hampshire Electric Cooperative

State: New Hampshire

NERC Region: Northeast Power Coordinating Council

Total Budget: $35,144,946

Federal Share: $15,815,225

Project Type: Advanced Metering Infrastructure and Customer Systems

Equipment

- **82,444 Smart Meters**
- **AMI Communication Systems**
  - **Meter Communications Network**
  - **Backhaul Communications**
- **Meter Data Management System**
- **2,000 In-Home Displays**

Time-Based Rate Programs Targeting up to 1,000 Members

- **Critical Peak Pricing**

Key Targeted Benefits

- **Reduced Meter Reading Costs**
- **Reduced Operating and Maintenance Costs**
- **Reduced Electricity Costs for Members**
- **Reduced Costs from Theft**
- **Increased Electric Service Reliability**
- **Reduced Ancillary Service Cost**
- **Reduced Truck Fleet Fuel Usage**
- **Reduced Greenhouse Gas and Criteria Pollutant Emissions**

Advanced electricity service options offered through the project include a 1,000-member pilot program that provides in-home displays to allow members to view and manage current electricity usage. The system can also deliver messages from NHEC to their members related to billing and account information.

Time-based rate programs include critical peak pricing and the expansion of existing time-of-use pricing for members receiving new smart meters. NHEC plans to test the pricing program with AMI and in-home displays to encourage members, by virtue of gaining increased control over their electricity costs, to shift their consumption from on- to off-peak periods.

New Hampshire Electric Cooperative *(continued)*

Timeline

Key Milestones	Target Dates
Communication system infrastructure deployment begins	Q3 2010
AMI/customer system asset deployment begins	Q2 2011
AMI/customer system asset deployment ends	Q4 2012
Time-based rate program data collection ends	Q2 2014

Contact Information

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